

Commodity Spotlight



USDA Photo by Ken Hammond

Catfish Farmers & Processors to Haul in Higher Revenues in 1999

Over the last 5 years, U.S. consumption of aquaculture products has increased, and the trend is likely to continue. With increasingly stringent catch limitations, the U.S. wild harvest is not expected to significantly expand in the near future. Aquaculture production is poised to fill the gap as retailers demand dependable quality and supply and research rapidly improves the productivity of aquaculture operations.

U.S. catfish production is one of the largest aquaculture industries in the world and is the dominant, and most successful, sector of the industry in the U.S., accounting for over 50 percent of U.S. aquaculture production. From 1990 to 1998, annual production rose from 392 to 599 million pounds, a 53-percent increase. Two years of relatively strong farm-level prices and a forecast for low corn and soybean prices in 1999, which would keep feed costs down, have led to expectations that growers will increase production again this year. An additional increase of 5-7 percent is forecast for 1999, which would bring total production for the year to 630-640 million pounds.

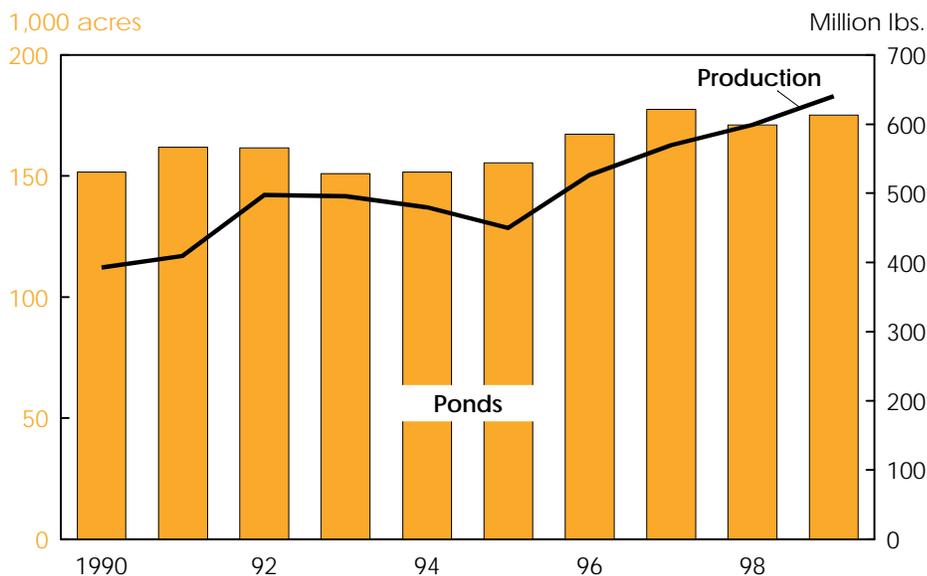
Catfish production is concentrated in the Delta states of Mississippi, Alabama, Arkansas, and Louisiana, primarily

because of warm climates, abundant water, and heavy clay soils for pond construction. In 1998, these four states accounted for 98 percent of total U.S. output, with Mississippi's 65-percent share leading the way.

Increased catfish production has been the result of an increase in both total acreage devoted to catfish ponds and average per-acre production. Estimates of catfish pond acreage have risen from 152,000 acres in 1990 to 171,000 acres in 1998, but this additional pond acreage could account for only 24 percent of the increase in fish production since 1990. The rest of the increase is due to productivity, which climbed 36 percent from 2,580 pounds per acre in 1990 to 3,505 pounds in 1998.

Several factors explain the increase: better disease resistance has led to reduced mortality, improved strains of catfish have provided higher growth rates, and better aeration equipment has both reduced mortality from low oxygen levels and allowed growers to increase stocking densities. Per-acre productivity levels are expected to continue to increase in the future, chiefly through the development of improved strains of catfish. Researchers in Mississippi recently announced a new strain of catfish ready for release that is reported to grow 20-25 percent faster than strains currently used. Not only is the growth rate higher, but the new breed is expected to have a lower feed conversion rate, which means less feed will be needed to produce each pound of edible meat.

U.S. Catfish Production Continues Steady Climb



1999 forecasts.
Economic Research Service, USDA

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An Underwater Feedlot

A catfish farm is similar to any livestock feeding operation. Fingerling catfish are grown in enclosures with special feeds, are carefully monitored for any signs of disease, and are provided an optimum environment until they reach market size. For catfish, the enclosures are ponds, and the optimum environment includes proper water quality and oxygen levels.

The greatest difference between catfish farming and hog or poultry operations is that the production area is underwater and outside, so catfish farmers are faced with problems that don't crop up in other livestock industries. Because the fish are generally out of sight, monitoring their feeding habits and health is much more difficult. In fact, the floating feeds used in the catfish industry were originally developed as a way for farmers to monitor how the fish were feeding; as long as fish are feeding aggressively, a farmer can assume they are relatively healthy.

While almost all hogs and chickens are grown inside specially constructed, climate-modified buildings, open ponds leave catfish operations vulnerable to less than ideal weather conditions and to predators. When water temperatures become too hot or too cold, for example, the growth rates for the catfish decline. Adverse weather conditions can also interfere with feeding or harvesting. Predators, mostly birds, threaten catfish production, and growers are evaluating a number of nonlethal ways of driving birds away from the ponds.

For catfish farmers, as for other livestock producers, feed costs make up a large share of total variable production expenses. An average catfish feed formulation can be up to 75 percent corn gluten feed and soybean meal. The remaining 25 percent will be a combination of other feed ingredients, including wheat middlings, cottonseed meal, fish meal, minerals, and vitamins. With this dependence on feed, the feed-related forces driving expansion and contraction of catfish production resemble those faced in the hog and poultry industries. The market forces these industries face are not identical, however. The catfish industry is chiefly domestic with only small amounts of

From Hatchery to Market: A Glossary of Catfish Terms

Fingerlings/fry: Fish weighing 0.06 pound or less (measured as 60 pounds per 1,000 fish or less).

Small stockers: Fish weighing over 0.06 pound and up to 0.18 pound (measured as over 60 pounds and up to 180 pounds per 1,000 fish).

Large stockers: Fish weighing over 0.18 pound and up to 0.75 pound (measured as over 180 pounds and up to 750 pounds per 1,000 fish).

Small food-size fish: Fish weighing over 3/4 pound and up to 1½ pounds.

Medium food-size fish: Fish weighing over 1½ pounds and up to 3 pounds.

Large food-size fish: Fish weighing over 3 pounds.

Broodfish: Fish kept for egg production, including males. Broodfish produce the fertilized eggs which go to hatcheries. The most desirable individual size is 3-10 pounds or 4-6 years of age.

imports and exports, while the poultry industry must consider export markets, which absorb 18 percent of its production, and the red meat industry must respond to both import and export markets.

From 1993 to 1998, prices for corn and soybean meal have changed dramatically. Prices for corn averaged \$2.22 a bushel in 1993, rose to over \$3.50 a bushel in 1996, and then fell to an average \$2.21 a bushel in 1998, a drop of 37 percent in 2 years. The price of soybean meal over the period followed a similar pattern, averaging \$199 a ton in 1993, rising to \$267 in 1997, then falling sharply to \$163 in 1998. Since corn and soybean meal prices are expected to average even lower in 1999, catfish farmers' feed costs likely will be flat or declining in 1999 while prices they receive from processors are expected to remain stable, enhancing farmers' returns.

Rising productivity per acre and lower feed costs have allowed the catfish industry to maintain returns despite stable prices, which have ranged fairly narrowly between 71 and 78 cents per pound through most of the 1990's, with the exception of 1991 and 1992, when catfish prices fell into the low 60- to upper 50-cent range. Wholesale prices have reflected the same stability, with only limited fluctuations throughout the decade. This price stability, coupled with year-round availability, has made catfish a more attractive product to the food service industry and grocery chains and permitted expansion in production.

Industry to Expand in 1999

Although per capita seafood consumption in the U.S. has been flat or declining for the last decade, the catfish industry has expanded sales at a pace well beyond the U.S. population growth rate. Catfish consumption has grown to account for approximately 7 percent of total fish and shellfish consumption and is expected to increase again in 1999 because of the strong domestic economy.

In response to the forecast for strong economic conditions and low feed prices, catfish farmers are expected to increase production in 1999 about 5-7 percent, while both farm and wholesale prices are expected to remain about the same as in 1998. As a result, farm sales for the catfish industry should approach \$500 million in 1999, up from \$469 million reported for 1998, which was 10 percent higher than in 1997. In 1998 most of the sales increase was attributed to higher sales by Mississippi growers, a situation that is expected to continue in 1999.

Early indications suggest growers are continuing to expand pond acreage, but surveys also show inventory levels only slightly higher than 1998, which may result in some short-term shortages of food-size fish early in the year, although shortages probably will not reach last year's levels when a shortfall caused farm prices to jump 10 cents per pound.

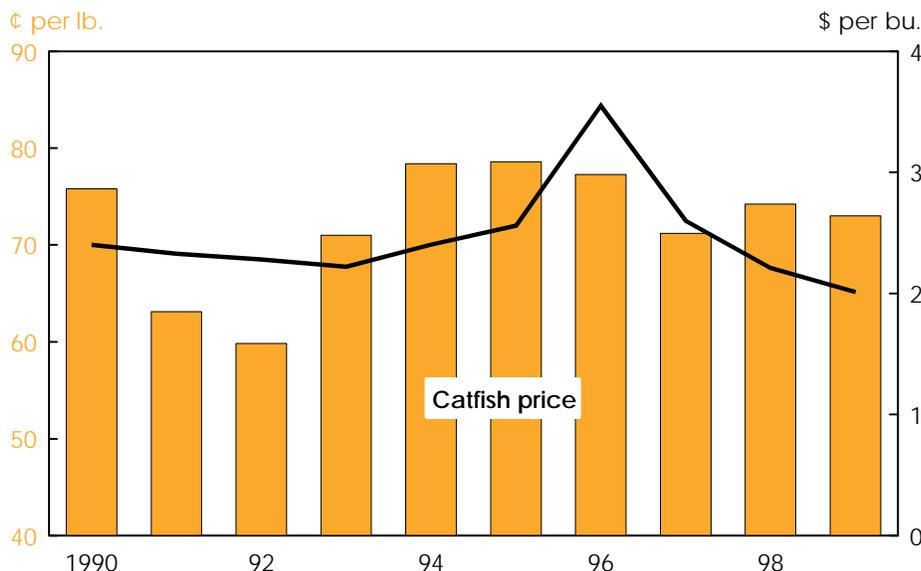
As of January 1, 1999, growers anticipated 175,220 acres of ponds would be used during the first-half of 1999, up 2 percent from the 1998 revised estimate. Most of this increase is attributed to a 5-percent acreage increase in Mississippi. Farmers also reported they would be renovating or building an additional 10,000 acres of ponds in the first half of 1999, an increase interpreted as delayed response to relatively steady farm prices and low feed costs over the last 2 years. The number of growers was also up, with Mississippi experiencing a strong 27-percent increase in farms.

At the beginning of 1999, growers reported their inventories of large and medium food-size fish had declined, but the decline was partially compensated by a marginal increase in the number of small food-size fish in inventory. The total inventory of small food-size fish has been relatively constant for the last 3 years, despite rising inventories reported by Mississippi growers over the same period.

In total, the 248 million food-size fish in current grower inventories would be expected to supply processors for only about 5 months if used at the rate seen in 1998. Thus, the relatively tight supply of food-size fish is expected to exert some upward pressure on prices during the first 3-4 months of 1999. In January and February 1999, processing has been up 3-4 percent and farm prices have risen to 71 cents per pound. Farm prices during this period also will be vulnerable to weather-related disruptions to harvesting and any change in the rate of off-flavor occurrences—periods during which temporary changes in fish flavor preclude marketing.

The inventory numbers for stockers, fish weighing 0.06 to 0.75 pound, were estimated at the beginning of 1999 at 660 million, up 9 percent from the previous year. Although a strong increase from 1998, this inventory level is still 27 percent below the 755 million reported at the start of 1997. How soon these stockers reach food size will be an important factor in determining whether growers experience a strong increase in prices in the first half of 1999 and if so, how long those higher prices will last.

U.S. Catfish Price to Remain Stable While Feed Costs Decline



Calendar-year farm prices for catfish and corn. 1999 forecasts.

The reported inventory of fingerlings, fish weighing less than 0.06 pound, was down 2 percent from 1998, but inventories in the four major states, where most of the processing plants are located, nearly matched the previous year at 921 million fish. These very small fish will be the chief source of food-size fish supply during the second half of 1999. Because fingerling inventories were about even with the previous year, the decline in prices as these fish reach market size may not be as severe in the second half of 1999 as it was in 1998. Broodstock inventory levels also were similar to those of the previous year, so egg and fingerling production during the first half of 1999 is expected to be roughly similar to 1998.

As processors rapidly move through the inventory of available food-size fish, farm prices for food-size fish are expected to strengthen quickly in the first quarter of 1999, with grower inventories of food-size fish near the previous year's levels and processor inventories of finished product down 9 percent at the start of 1999. Sales to processors in the first 2 months of 1999 totaled 98 million pounds, up 3 percent from a year earlier. Farm prices are expected to soften, however, in the second quarter of 1999, following the seasonal increase in consumption associated with Lent and as the large inventory of stockers begins to reach food size.

Prices for stockers and fingerlings are also expected to rise slightly in 1999, and stocker and fingerling producers are likely to see expanded sales. Food-size producers are expected to increase the size of their operations and possibly the density of stocking in existing ponds as a result of somewhat low starting inventories, expected strong processor sales in first-quarter 1999, and expectations of continued low prices for corn and soybeans.

Gross processor revenues are expected to increase again in 1999. Total sales are expected up 5-7 percent, mirroring the expected increases in farm production. Processors' prices, however, are expected to show little change from 1998, as a result of large supplies of competing meat. Stable prices and increased sales should result in an increase in catfish processor revenues for the fifth year in a row. For 1998, processor sales increased 8 percent to 281 million pounds, and in combination with a 2-percent increase in average price, boosted processors' gross revenues by 10 percent—\$85 million—to just under \$650 million. Processor sales in 1999 are expected to be dominated by sales of fileted products. **AO**

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